



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,743	02/26/2002	John Stanley Michalek	9539-000055	8433

27572 7590 07/27/2004

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. BOX 828  
BLOOMFIELD HILLS, MI 48303

EXAMINER

AURORA, REENA

ART UNIT PAPER NUMBER

2862

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/085,743

Applicant(s)

MICHALEK ET AL.

Examiner

Reena Aurora

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28 - 48 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, 11, 12, 16, 19-21 and 25 is/are rejected.
- 7) ☒ Claim(s) 3 - 5, 8 - 10, 13 - 15, 17, 18, 22 - 24 and 26 - 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/30/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This communication is in response to amendment received on 03/01/04.

Examiner is not commenting on the interference at this time until all prior art rejections are resolved.

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a plurality of sensors as claimed in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of

Art Unit: 2862

any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6, 11 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Grillo et al. (4,940,936).

4. As to claim 1, Grillo et al. (hereinafter referred to as Grillo) discloses an antifriction bearing assembly including an axle assembly (120, fig. 5); a sensor (150, fig. 2) adapted to send signals (180) to a controller (not shown) adapted to determine the rotational parameters of an axle within the axle assembly; and an exciter assembly (130, fig. 2) including an exciter ring (130) coupled to rotate with the axle, the exciter ring (130) having an annular lip (148, fig. 7) protruding about the circumference of a first end of the ring, the ring having an aperture to accommodate the shaft of the axle (120, fig. 5), the ring having teeth (244, 246, fig. 9) extending axially along a second end of the ring, the sensor (150) positioned to detect the teeth of the exciter ring; and an outer member concentric to the lip (148), adapted to restrain the radially projecting annular surfaces of either annular end of the lip (148), the outer member (140) fixed within the axle assembly (120) (fig. 2, 5, 7, 9).

5. As to claim 6, Grillo discloses an antifriction bearing assembly comprising an axle tube (120, fig. 5); an axle (120) passing through a section of the axle tube; an inner bore (120) within the axle tube; a sensing means (150, fig. 2) for detecting rotational parameters of the axle (120); and an exciter ring (130, fig. 2) assembly press fit into the inner bore (120) comprising an exciter ring (130) with an annular lip (148) protruding about the circumference of a first end of the exciter ring (130, fig. 2) having a coaxial bore to accommodate the diameter of the axle (120), the exciter ring having axial teeth (244, 266, fig. 1) extending radially along a second end of the exciter ring, the sensing means positioned to detect the teeth of the exciter ring; and outer member concentric to the lip (22), adapted to restrain the radially projecting annular surfaces of either annular end of the lip, the outer member (140) adapted to an interference fit with the inner bore (120) (Fig. 2, 5, 7 9).

6. As to claim 11, Grillo discloses an antifriction bearing assembly comprising an exciter ring (130, fig. 2) with an annular lip (148) protruding about the circumference of a first end of the exciter ring, the exciter ring having radial teeth (244, 266, fig 1) extending axially along a second end of the exciter ring, the lip (148) having a first radially projecting annular end surface and a second radially projecting annular end surface; and an outer member (140) concentric to the lip, the outer member (140) restraining the first and second annular surfaces of the lip (148), the outer member (140) adapted to be restrained relative to rotation of the axle (120) (Fig. 2, 5, 7 9).

7. As to claim 19, Grillo discloses an antifriction bearing assembly comprising an annular lip (148) protruding about the circumference of a first end of the exciter ring

Art Unit: 2862

(130), the exciter ring having a coaxial bore to accommodate the diameter of an axle (120), the exciter ring having radial teeth (244, 266) extending axially along a second end of the exciter ring, the lip (148) having a first annular end surface and a second annular end surface and an outer circumferential surface (Fig. 2, 5, 7 9).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 7, 12 16, 20, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grillo et al. (4,940,936).

10. As to claims 2, 7, 12 16, 20, 21 and 25, Grillo discloses fingers and grooves (232, 246, fig. 10) attached to the interior surface of the exciter ring and contacting the axle to restrain the relative rotation between the exciter ring and the axle (Fig. 10, Column 4, Lines 23 - 35). Grillo fails to disclose the elastomer insert attached to the interior surface of the exciter ring and contacting the axle. However, the multiple fingers and grooves or elastomer insert attached to the interior surface of the exciter ring and contacting the axle will provide a snug fit. Therefore it would have been obvious to one of ordinary skill in the art to make the device of Grillo with the elastomer insert attached to the interior surface of the exciter ring and contacting the axle to provide a snug fit.

***Allowable Subject Matter***

11. Claims 3 – 5, 8 – 10, 13 – 15, 17, 18, 22 – 24 and 26 – 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. As to claims 3 – 5, 8 – 10, 13 – 15, 17, 18, 22 – 24 and 26 – 27, the prior art fails to show channels within the interior surface of the elastomer insert and recesses and cutouts in the circumferential surface of the elastomer insert enabling oil to pass from first axial end of the exciter ring to the second axial end of the exciter ring assembly.

13. Claims 28 – 48 are allowed.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 571-272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2862

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Reena Aurora

  
JAY PATIDAR  
PRIMARY EXAMINER